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Ex Parte Contact Disclosure Report

- Safety Standards for Flight Guidance Systems and Proposed Revisions to Advisory Circular 25.1329-1A, Automatic Pilot Systems Approval; Proposed Rule and Notice
- Docket No. FAA-2004-18775; Notice No. 04-11
- October 27, 2004
- Telephone Conference
- Captain Steve Stowe, Individual Commenter on FGS NPRM and Flight Guidance Systems Harmonization Working Group member

Summary

I did not feel that I could adequately address Captain Stowe's concern without further clarification of the issue he was concerned about, and a better understanding of how the change he proposed to rule paragraph (c) would necessarily alleviate his concern. To facilitate this clarification, I initiated a telephone conversation with Captain Stowe.

His comment is included below.

Comment re explanatory material on proposed 25.1329 (c), (d), (e); the discussion on transients and their definition; and the explanatory text in rule (c) that reads: *"For purposes of this section, a minor transient is an abrupt change in the flight path of the airplane that would not significantly reduce airplane safety, and which involves flightcrew actions that are well within their capabilities involving a slight increase in flightcrew workload or some physical discomfort to passengers or cabin crew."*

I realize that the FGSHWG "beat this to death" with many iterations on the wording and possible meanings and interpretations for the various transient issues. That said, I do not like your definition of 'minor transient' in that it conveys that it is necessarily abrupt and that it does involve an increase in crew workload and that it does involve physical discomfort.

Rationale: I do not think these consequences are what we want as a rule for the engagement, mode change, or disengagement of a modern FGS. Whereas the response might be 'abrupt' in terms of a short time constant to peak amplitude, hence discernable or noticeable to crew and perhaps passengers, the magnitude of the response should not increase workload or cause physical discomfort in most cases. At the FGSHWG, we discussed variations in transient response that might differ from, for example, engagement or disengagement in non-maneuvering flight versus maneuvering flight. At one point, it was even suggested that we put value bounds on the 'minor transient' response of less than 0.5 g and pitch/roll/yaw rates of less than 10 degrees per second. Even though (c) and (d) do state "... must not cause ... any greater than a minor transient," I think it would help if the ensuing definition incorporated the same concept.

Recommendation: Change (c) to read "For the purposes of this section, a minor transient is *a response that produces no greater than an abrupt change ...*"

I now understand Captain Stowe's concern to be in two parts.

1. He is concerned that the definition of "minor transient" states that it is an "abrupt change in the flight path of the airplane". The concern could be that, if this definition were included in a system design specification, an FGS system could cause a minor transient at any time when it is engaged, disengaged, or switches operating modes. Captain Stowe asserted that modern FGS systems should not produce any perceptible transients during these changes in the system operation.
2. He is concerned that the word "abrupt" is used in the definition of minor transient in the rule language. However, the JAA/EASA does not use the word "abrupt" in their ACJ or when specifying the maximum allowable transient in their JAR's. He is concerned that this could be construed as a Significant Regulatory Difference and cause the two rules to be unharmonized.

The FAA will consider these clarifications to be part of the original comment, when the public comments to this rulemaking project are dispositioned.

Signed



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Comments from S7 committee (Flight Deck and Handling Qualities Standards for Transport Aircraft) SAE.